

PV MASTER INTERNATIONAL LTD.

Clean Energy

Portable Solar Module

Solar PowerCenter

Cooler & Warmer Box

Rechargeable Lead Acid Battery

Solar Charge Controller



CLEAN WORLD



Portable Solar Module

- Power ratings from 5W-10W
- Lightweight & portable
- Easy plug & play connection
- Virtually unbreakable (No glass)



The Portable Solar Module utilizes the unique Triple-Junction thin-film silicon solar cells. They have excellent high temperature performance (low temperature co-efficient for power loss and voltage loss) and have relatively higher power outputs under diffuse (cloudy) and low light conditions. Each cell is composed of three semi-conductor junctions stacked on top of each other, forming three different sub-cells. The bottom sub-cell absorbs the red light; the middle cell absorbs the yellow/green light and the top cell absorbs the blue light.

Several solar cells are connected together to provide the specified output voltage of 14 Volts and are laminated in flexible weather-resistant polymers. Portable Solar Module can be used on its own or stuck to the side of a bag (like backpack) for easy carrying.

Charging the portable electronic equipment (like, laptop, portable DVD player, portable media player, mobile phone, PDA, iPod, digital camera and etc) is handy by using the Portable Solar Module.

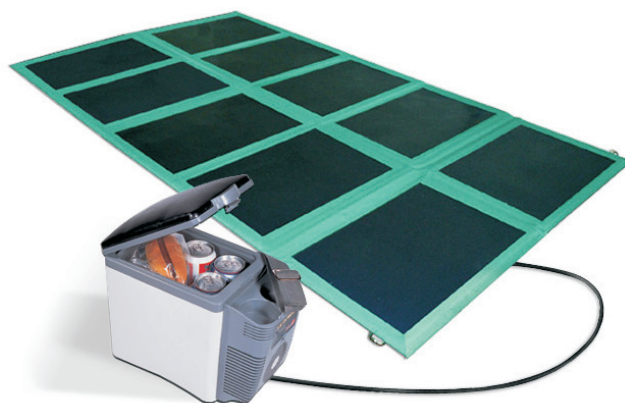
■ Specification

Electrical Characteristics	Symbol	Unit	Value	
Maximum Power	Pmax	Watt	5	10
Voltage at maximum power	Vmp	Volt	14	14
Current at maximum power	Imp	Ampere	0.36	0.72
Open Circuit Voltage	Voc	Volt	20	20
Short Circuit Current	Isc	Ampere	0.48	0.96

Note: Electrical characteristics are based on standard test conditions (STC) of 1000 Watt per square meter irradiance, air mass 1.5 and cell temperature 25 degree Centigrade (per ASTM E892)

Solar PowerCenter

- Solar Panel of power ratings from 50W-120W
- Waterproof protection
- Virtually unbreakable (No glass)
- Easy to install (No steel structure)
- Easy to operate
- Shadow & high heat tolerant



The Solar PowerCenter consists of a foldable solar panel and charge controller. The thin film solar modules, which are laminated in weather resistant polymers, are fastened onto a PVC coated canvas. The solar charge controller has the advanced control features (like Pulse Width Modulation; protection of over charging and discharging) to maximize the charging performance of the solar panel on a lead acid battery.

Together with a 12 Volt deep cycle lead acid battery and a DC/AC inverter, the Solar PowerCenter can supply power of 110/220 Volt continuously for a period of time to television set, refrigerator, and other electrical appliances. This is particularly useful in rural areas without electrical supply.

The Solar PowerCenter can be used on its own to directly drive a 12 Volt Cooler & Warmer Box for camping and outdoor applications.

■ Specification

Electrical Characteristics	Symbol	Unit	Value		
Maximum Power	Pmax	Watt	50	60	120
Voltage at maximum power	Vmp	Volt	14	17	17
Current at maximum power	Imp	Ampere	3.6	3.6	7.2
Open Circuit Voltage	Voc	Volt	20	24	24
Short Circuit Current	Isc	Ampere	4.8	4.8	9.6

Note: Electrical characteristics are based on standard test conditions (STC) of 1000 Watt per square meter irradiance, air mass 1.5 and cell temperature 25 degree Centigrade (per ASTM E892)

Cooler & Warmer Box

- Power rating is 48W
- Voltage: 12V DC
- Capacity: 6L
- Cooling: $20 \pm 2^{\circ}\text{C}$ cooler than surrounding temperature
- Warming: up to 65°C
- Size: 320mm×175mm×300mm



Rechargeable Lead Acid Battery



- Deep cycle
- Voltage: 4V, 6V and 12V
- Capacity at 20-hour rate :0.5 to 200Ah
- UL - recognized components
- Usable in any position
- Absorbent Glass Mat technology
- Sealed and valve regulated
- Maintenance free

Solar Charge Controller

- Protection of over charge、over discharge、reverse polarity、overload and short circuit
- Identify 12V or 24V voltage automatically
- PWM (Pulse Width Modulation) control



■ Specification

Rated load current	5A	10A	20A
Self consuming current	<5mA		
Temperature correction	-5mV/°C/2V		
Operating temperature	-35°C to 55°C		
Weight	150g		
Size	145mm×92mm×29mm		

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